

Studies Plan

EDMX - Materials science and Engineering 2023-24

Core courses

Courses	Language	Code	Section	Teacher	Exam	Credit
21Intro Scanning electron microscopy techniques (Next time: November 29-December 11, 2023)						
E	MSE-609	EDMX	Maeder Michler	Written	1	
3D Electron Microscopy and FIB-Nanotomography						
E	MSE-704	EDMX	Cantoni Navratilova	Project report	1	
Additive Manufacturing of Metals and Alloys						
E	MSE-666	EDMX	Leinenbach Logé	Oral presentation	2	
Beyond the Lab (June 25-28, 2024. Location: White House, Beatenberg (CH). Inscription via https://beyondthelab2024.epfl.ch)						
E	MSE-808	EDMX	Grundler	Project report	2	
CCMX Advanced Course - Advanced X-ray Diffraction Methods for Coatings: strain, defects and deformation analysis of thin films (Next time: November 22-24, 2023)						
E	MSE-628	EDMX	Dommann Neels	Written	1	
CCMX Advanced Course - Instrumented Nanoindentation (14-16 February, 2024 / EPFL)						
E	MSE-656	EDMX	Bourban Bushby Randall	Written	1	
CCMX - ScopeM Advanced Course - Advanced Characterization of Materials at the Micro, Nano and Atomic Scales (Next time: 2024)						
E	MSE-655	EDMX	Various lecturers	Written	2	
CCMX Summer School - Characterisation of Materials (Next time : August 22-25, 2023)						
E	MSE-805	EDMX	Michaud Oveisi Various lecturers	Written	1	
CCMX Tribology and Surfaces Interactions (Next time: July 3-7, 2023)						
E	MSE-667	EDMX	Igual Muñoz Mischler Molinari Various lecturers	Project report	2	
Computation, Modeling and Visualization (Summer 2023)						
E	MSE-671	EDMX	Carter	Oral	1	
Crystal growth by epitaxy (Will not be given during this academic year)						
E	MSE-649	EDMX	Fontcuberta i Morral	Multiple	2	
Crystallography of structural phase transformations (Next time 2025)						
E	MSE-651	EDMX	Cayron	Written	1	

Effects of radiation on materials*(Next time: Fall 2023)*

E	MSE-600	EDMX	Bertsch Dai Pouchon Schäublin Seifert Spaetig	Oral	2
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Electrochemistry in Corrosion Research*(Will not be given during this academic year)*

E	MSE-658	EDMX	Mischler Various lecturers	Project report	1
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Fundamentals of STEM Imaging and Spectroscopy

E	MSE-715	EDMX	Alexander Boureau Cantoni Invited lecturers Oveisi	Oral	2
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Laser Materials Processing

E	MSE-662	EDMX	Hoffmann Leinenbach	Oral	2
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Limestone-Calcined Clay - Cement : Characterisation methods*(Next time: February 5-9, 2024)*

E	MSE-660	EDMX	Scrivener Various lecturers Zunino	Written	2
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LNM Workshop 2023

E	MSE-672	EDMX	Cozzo Dai Malgorzata Grazyna Pouchon	Oral presentation	1
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Nanofabrication with focused electron and ion beams

E	MSE-619	EDMX	Hoffmann Utke	Oral presentation	2
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Nanoparticles: from fundamentals to applications*(Students should register via the website:**<https://www.epfl.ch/research/domains/ccmx/courses-and-events/2024nanoparticles/>**Date: August 19 to 23, 2024)*

E	MSE-673	EDMX	Amstad Invited lecturers Leemans Stellacci	Oral presentation	2
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Non-destructive methods for industry and research*(Next time: November 16, 17, 20 and 21, 2023)*

E	MSE-668	EDMX	Hardy Parrilli	Oral presentation	2
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Optical Materials: Fundamental concepts and recent developments*(Next time: Spring 2024)*

E	MSE-643	EDMX	Sorin	Oral	1
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Powder Characterisation and Dispersion*(Next time 2024)*

E	MSE-709	EDMX	Sereda	Written	1
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Powder Diffraction School - Modern Synchrotron Methods*(Next time: September 11-15, 2023)*

E	MSE-663	EDMX	Casati Testino Van Petegem Various lecturers	Oral	2
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Scanning and Analytical Transmission Electron Microscopy

E	MSE-735	EDMX	Boureau Cantoni Oveisi Reyes Vasquez	Oral presentation	1
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Scanning electron microscopy techniques (a)

E	MSE-636(a)	EDMX	Cantoni Navratilova Oveisi	Written	1
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Scanning electron microscopy techniques (b)

E	MSE-636(b)	EDMX	Cantoni Navratilova Oveisi	Written	1
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Science and technology of UV-induced polymerization

(Ne sera pas enseigné durant l'année académique 2023-2024)

E	MSE-703	EDMX	Dalle Vacche Leterrier Nouzille Sangermano	Term paper	1
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Statistical methods in atomistic computer simulations

(Next time: 2025)

E	MSE-639	EDMX	Cerioti	Project report	2
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Thin film and small scale mechanics

(Next time: November 7-10, 2023)

E	MSE-669	EDMX	Michler Schwiedrzik	Written	2
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Transmission electron microscopy and diffraction (a)

(Next time: November 6-8, 2023)

E	MSE-637(a)	EDMX	Boureau Cantoni Oveisi	Written	1
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Transmission electron microscopy and diffraction (b)

E	MSE-637(b)	EDMX	Boureau Cantoni Oveisi	Written	1
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X-Ray Analysis for thin films

(Next time: October 10-13, 2023)

E	MSE-627	EDMX	Dommann Maeder	Written	2
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Other doctoral courses (EDOC)

Courses				Exam	Credit
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Language Code	Section	Teacher			
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Lecture series on scientific machine learning

(Next time: Fall 2024)

E	PHYS-754	EDPY	Carleo Cerioti De Los Rios Mathis Schwaller Wyart Zdeborová	Oral presentation	2
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Master courses

Courses				Exam	Credit
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Language Code	Section	Teacher			
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Error control in scientific modelling

E	MATH-500	MA	Herbst	During the semester	5
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Material science at large scale facilities

(pas donné en 2023-24)

E	MSE-435	MX		Oral	4
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Seminar series on advances in materials (autumn)

*(You are most welcome to follow the seminar series each semester.
However, you can only obtain ECTS credit points during one single semester.)*

E	MSE-470(a)	MX	Abitbol Raju Natarajan	Written	2
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Seminar series on advances in materials (spring)

*(You are most welcome to follow the seminar series each semester.
However, you can only obtain ECTS credit points during one single semester.)*

E	MSE-470(b)	MX	Abitbol Jotzu	Written	2
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